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Sent by electronic mail and U.S. Mail

Chip Humphrey, Remedial Project Manager
Oregon Operations Office
U.S. Environmental Protection Agency
805 S.W. Broadway, Suite 500
Portland, Oregon 97205

Kristine Koch, Remedial Project Manager
Office of Environmental Cleanup, ECL-115
U.S. Environmental Protection Agency
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101

Re: Portland Harbor Superfund Site
Submittal of Comments on the LWG Draft Bioaccumulation Model Report

Dear Mr. Humphrey and Ms. Koch:

One of the principal drivers for establishing preliminary remediation goals (PRGs) for PCBs at the Portland Harbor Superfund Site is the characterization of the relationship between PCBs in sediments and those in target receptors, in particular smallmouth bass (SMB). To date, that relationship has been established by the July 21, 2009 Draft Bioaccumulation Model Report prepared by Windward Environmental (Windward) for the Lower Willamette Group (LWG). That report apparently has not been the subject of specific EPA written comments and, to the best of our knowledge, remains in draft form. Nevertheless, the LWG model is the basis for the focused PCB PRG of 29.5 ug/kg that the Draft Feasibility Study (FS) Report applies in developing and evaluating potential PCB Remedial Action Levels (RALs) for the site. The selected RALs will determine the river area that requires remediation. The PCB

sediment PRG thus is a highly significant and foundational parameter for establishing the extent of required remediation at the Portland Harbor site.

Given its key importance, it is critical that the LWG PCB Bioaccumulation Model be constructed on sound principles and appropriately characterize the exposure of target species. FMC Corporation (FMC) and other Portland Harbor GNL recipients have specific technical reasons for concluding that the LWG model does not meet these criteria. Enclosed is a report entitled "Comments on the LWG Portland Harbor RI/FS Draft Bioaccumulation Modeling Report" dated April 2012 that has been prepared by Hanna Associates, Inc. - Integrated Risk Management (HAI-IRM), a consultant to FMC. Also enclosed is an April 4, 2012 letter from HAI-IRM transmitting this report to FMC counsel. The electronic files referenced in the report are being sent electronically with this letter rather than in hard copy. The HAI-IRM report details a number of significant shortcomings in the LWG model.

As described in the HA-IRM report, the design of the LWG model and the process used to calibrate it to observed conditions show that the model is not sufficiently robust to generate reliable and justifiable PRGs. In addition, the model used inappropriate SMB exposure assumptions in developing the 29.5 ug/kg PCB sediment PRG. The LWG model assumes that SMB exposure occurs uniformly across the width of the river channel and along the length of the RI/FS study area, despite the fact that radio-tagging data demonstrate that SMB in the study area have an approximate home range of one river mile and feed predominantly in nearshore areas. By correlating SMB tissue concentrations to the average channel-wide sediment concentration, which is significantly lower than nearshore levels, the LWG model under-estimates their PCB exposure, over-estimates their PCB bioaccumulation, and contributes to generating a PRG not supported by the site data. As the HAI-IRM report summarizes at pages 15-16, use of applicable nearshore PCB sediment data to characterize SMB exposure generates a Total PCB sediment PRG of 61.3 ug/kg even without making any of the other model corrections recommended by the report. Compared to the 29.5 ug/kg channel-wide PRG that EPA and LWG currently are using, this adjusted nearshore PRG supports selection of a less conservative RAL that would significantly reduce the river area where active remediation would be required. The magnitude of this reduction is discussed at page 16 of the enclosed report.

HAI-IRM developed an initial version of this report in July 2010, and HAI-IRM and FMC met with Windward and LWG representatives in September 2010 to discuss it. At that time it was envisioned that the report would lead to refinement of the draft LWG model. Because that further development has not occurred, and given the critical importance of establishing a scientifically justified PCB sediment PRG, FMC with the support of a number of other Portland Harbor GNL recipients is now

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submitting the updated report to EPA for the full evaluation that we believe it warrants. EPA consideration of this report is particularly timely in that the PCB sediment PRG has been identified as a Remediation Goal (RG) in the Draft Feasibility Study Report, where it has been applied as a key criterion in defining and evaluating a range of potential Total PCB RALs. The adjusted PRG derived in the enclosed report supports a less conservative range of Total PCB RALs and provides a more technically accurate and appropriate basis for RAL selection.

We would like to schedule a meeting with you and other technical staff to discuss this report after you have had an opportunity to review it. Please contact me at telephone 206/ 676-7030 to arrange that meeting. Thank you.

Sincerely,



David M. Heineck
Attorney for FMC Corporation

Enclosures sent in hard copy and as electronic files

cc (w/enclosures):

Daniel J. Opalski, Director, Office of Environmental Cleanup
Lori Houck Cora, Esq., Assistant Regional Counsel